

```

graph TD
    A[SCANNER ACQUIRES IMAGES] -- 100 --> B[IMAGES STORED IN DATABASE (NON- WEB PAGE FORMAT)]
    B -- 1000 --> C[IMAGES READ FROM DATABASE]
    C -- 1100 --> D[IMAGES CONVERTED TO WEB COMATIBLE FORMAT]
    D -- 1200 --> E[JAVA CODE DOWNLOADED TO ALLOW USER TO ADJUST BRIGHTNESS, MOVIE SPEED, ETC]
    E -- 1300 --> F[IMAGE DATA DOWNLOADED]
    F -- 300 --> G[USER ADJUSTS BRIGHTNESS, MOVIE SPEED, MAGNIFICATION, ETC]
    G -- 1400 --> H[USER VIEWS SINGLE IMAGE (OR MOVIE) WITH DESIRED BRIGHTNESS, MOVIE SPEED, MAGNIFICATION, ETC]
    H -- 400 --> I[USER REQUESTS NEXT SINGLE IMAGE (OR MOVIE) FROM SAME PATEINT]
    I -- 200 --> J[USER REQUESTS SINGLE IMAGE (OR MOVIE) AS WEB PAGE]
    J -- 100 --> A
  
```

The flowchart illustrates the system architecture and user interaction process. It begins with a scanner acquiring images (100), which are then stored in a database in a non-web page format. When a user requests a single image or movie as a web page (200), the system reads the images from the database (1100) and converts them to a web-compatible format (1200). The system then downloads Java code to allow the user to adjust brightness, movie speed, etc. (1300). The image data is downloaded (300), and the user adjusts the brightness, movie speed, magnification, etc. (1400). The user then views the single image or movie with the desired settings (400). The user requests the next single image or movie from the same patient (400), and the process repeats.

**FIG. 1**  
**PRIOR ART**

00745575-000004

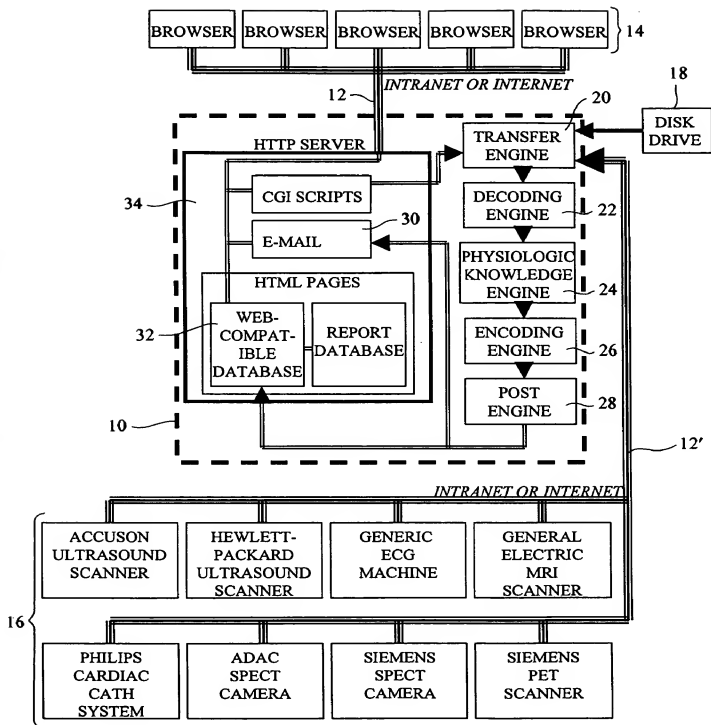


FIG. 2

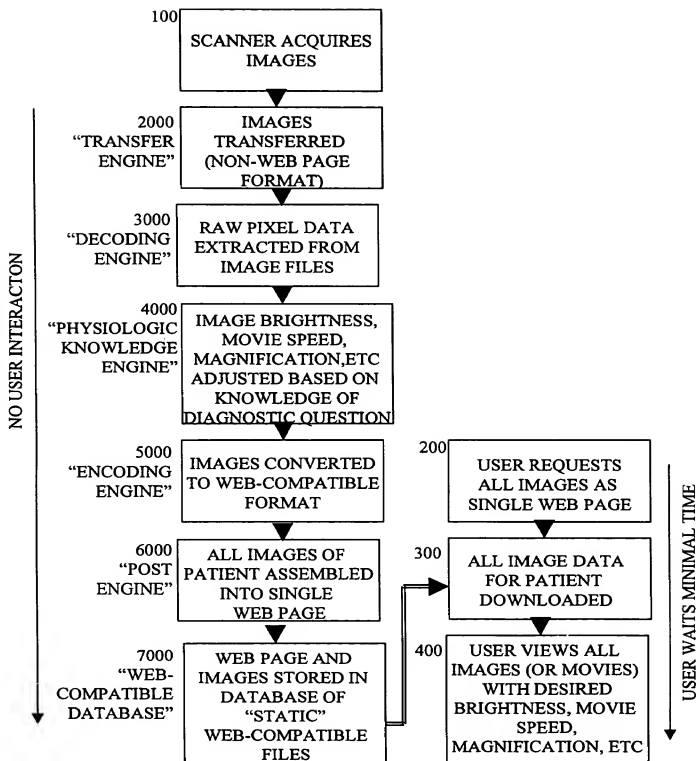
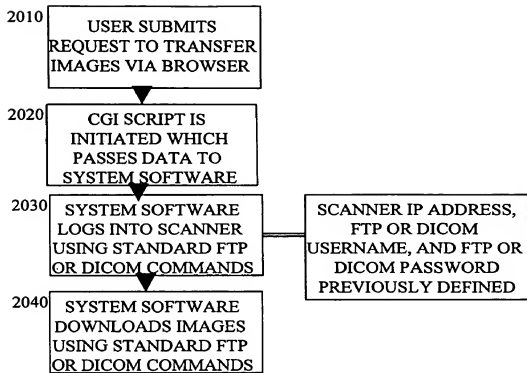


FIG. 3

00742726

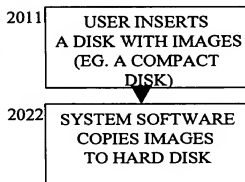
**METHOD 1**



**FIG. 4a**

**- OR -**

**METHOD 2**



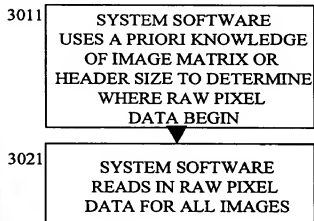
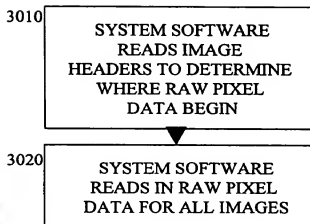
**FIG. 4b**

## METHOD 1 FOR “STANDARD” IMAGE FORMATS (EG. DICOM)

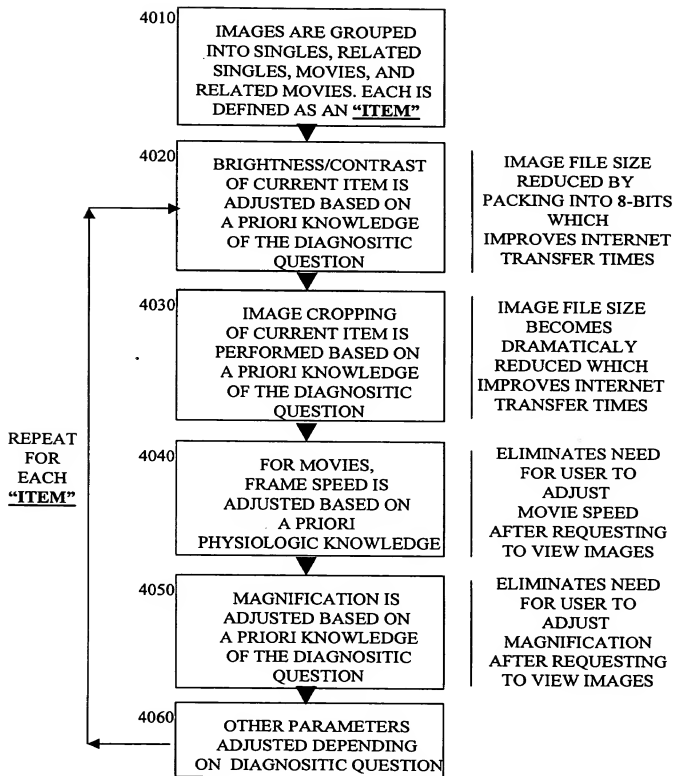
**- OR -**

## METHOD 2 FOR "NON-STANDARD" IMAGE FORMATS

**FIG. 5a**



**FIG. 5b**



**STEP 4020** - Define search region as subregion within image which contains the organ of interest (eg. heart) and search all movie frames for the single brightest pixel. Scale all movie frames by same amount to make single brightest pixel equal to  $2$  to the  $8$ th power minus  $1$ , eg.  $255$  (1 byte/pixel, 8-bit image).

**STEP 4030** - Create thumbnail movies by cropping images such that only the organ of interest is shown (eg. heart).

**STEP 4040** - Convert all movie frames into a single movie with frame rate chosen to simulate real time motion (eg. beating heart).

**STEP 4050** - Create a full-field-of-view version of each thumbnail so that user can double-click to view additional details.

**FIG. 7a**

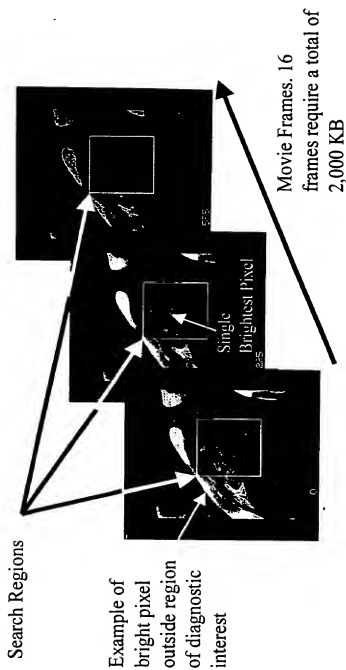


FIG. 7b



Eg. STEP 4040

Thumbnail movie of  
beating heart  
(16 frames=100KB)



Eg. STEP 4050

Full field-of-  
view movie  
displayed full  
screen when  
thumbnail  
clicked (16  
frames=400KB)



FIG. 7c

160000 54224260

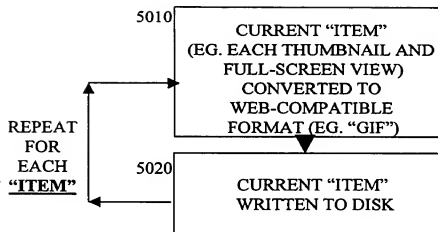


FIG. 8

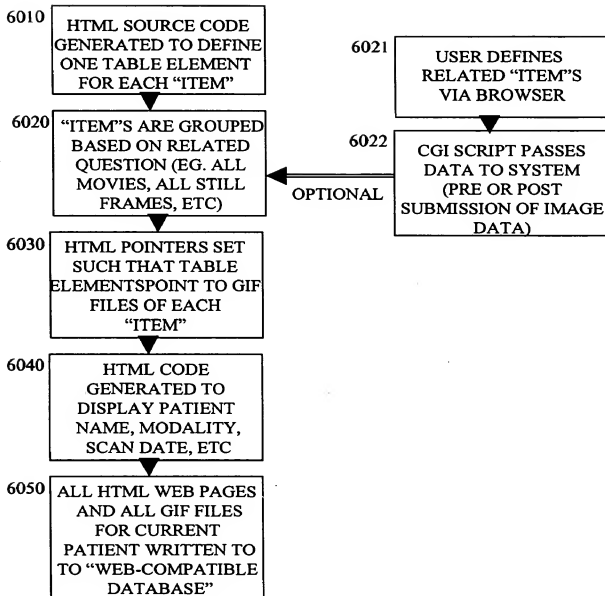


FIG. 9

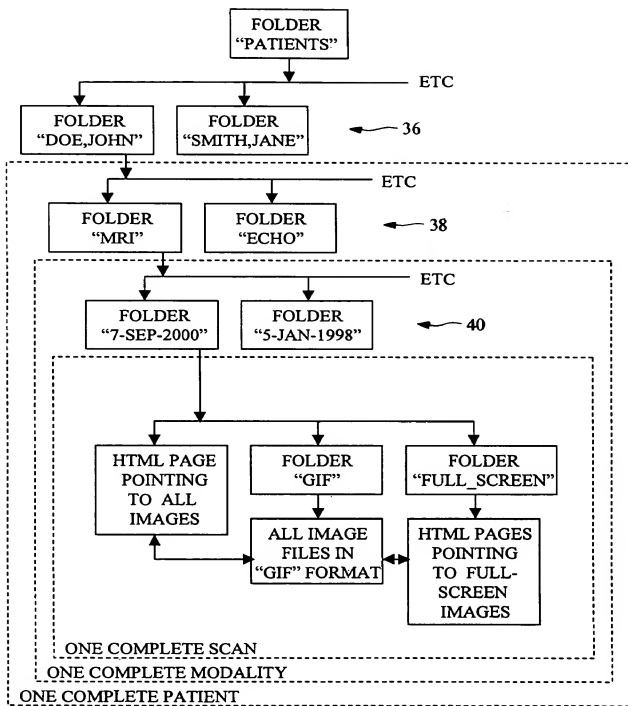


FIG. 10

00745675-000004  
1010350-5552120

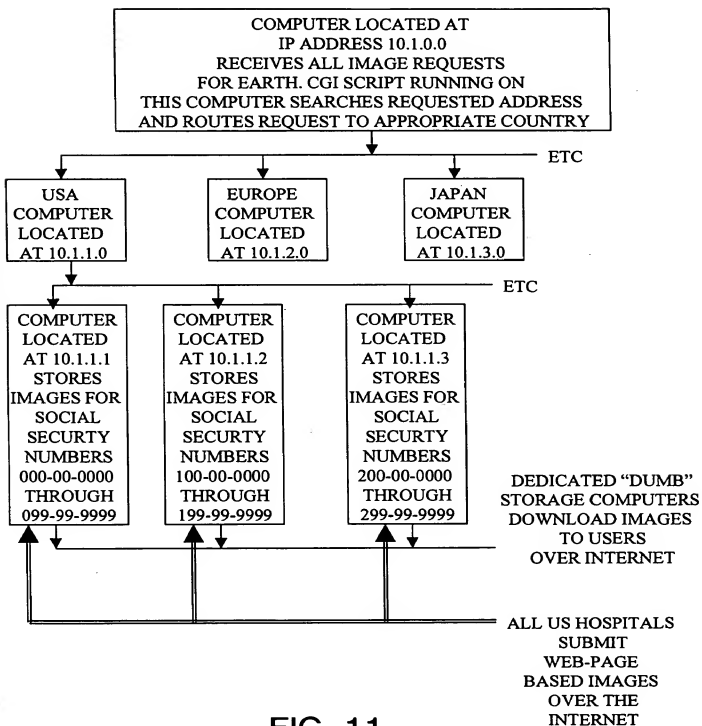


FIG. 11

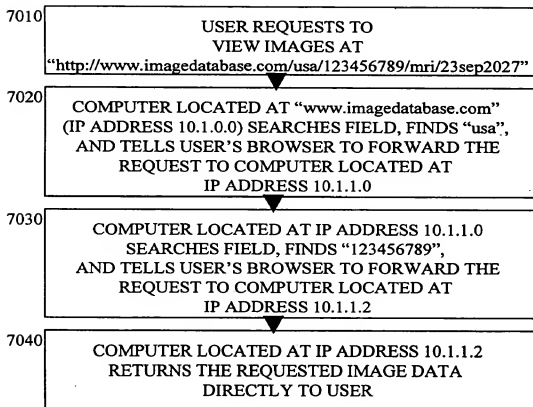


FIG. 12

Library Listing of nonredundant patients Data		
S Num	Name	File Modification Date
01	Ch	W04 07 Jan 2000 11:53
02	Ch	W04 07 Jan 2000 11:53
03	Ch	W04 07 Jan 2000 11:53
04	Ch	W04 07 Jan 2000 11:53
05	Ch	W04 07 Jan 2000 11:53
06	Ch	W04 07 Jan 2000 11:53
07	Ch	W04 07 Jan 2000 11:53
08	Ch	W04 07 Jan 2000 11:53
09	Ch	W04 07 Jan 2000 11:53
10	Ch	W04 07 Jan 2000 11:53
11	Ch	W04 07 Jan 2000 11:53
12	Ch	W04 07 Jan 2000 11:53
13	Ch	W04 07 Jan 2000 11:53
14	Ch	W04 07 Jan 2000 11:53
15	Ch	W04 07 Jan 2000 11:53
16	Ch	W04 07 Jan 2000 11:53
17	Ch	W04 07 Jan 2000 11:53
18	Ch	W04 07 Jan 2000 11:53
19	Ch	W04 07 Jan 2000 11:53
20	Ch	W04 07 Jan 2000 11:53
21	Ch	W04 07 Jan 2000 11:53
22	Ch	W04 07 Jan 2000 11:53
23	Ch	W04 07 Jan 2000 11:53
24	Ch	W04 07 Jan 2000 11:53
25	Ch	W04 07 Jan 2000 11:53
26	Ch	W04 07 Jan 2000 11:53
27	Ch	W04 07 Jan 2000 11:53
28	Ch	W04 07 Jan 2000 11:53
29	Ch	W04 07 Jan 2000 11:53
30	Ch	W04 07 Jan 2000 11:53
31	Ch	W04 07 Jan 2000 11:53
32	Ch	W04 07 Jan 2000 11:53
33	Ch	W04 07 Jan 2000 11:53
34	Ch	W04 07 Jan 2000 11:53
35	Ch	W04 07 Jan 2000 11:53
36	Ch	W04 07 Jan 2000 11:53
37	Ch	W04 07 Jan 2000 11:53
38	Ch	W04 07 Jan 2000 11:53
39	Ch	W04 07 Jan 2000 11:53
40	Ch	W04 07 Jan 2000 11:53
41	Ch	W04 07 Jan 2000 11:53
42	Ch	W04 07 Jan 2000 11:53
43	Ch	W04 07 Jan 2000 11:53
44	Ch	W04 07 Jan 2000 11:53
45	Ch	W04 07 Jan 2000 11:53
46	Ch	W04 07 Jan 2000 11:53
47	Ch	W04 07 Jan 2000 11:53
48	Ch	W04 07 Jan 2000 11:53
49	Ch	W04 07 Jan 2000 11:53
50	Ch	W04 07 Jan 2000 11:53
51	Ch	W04 07 Jan 2000 11:53
52	Ch	W04 07 Jan 2000 11:53
53	Ch	W04 07 Jan 2000 11:53
54	Ch	W04 07 Jan 2000 11:53
55	Ch	W04 07 Jan 2000 11:53
56	Ch	W04 07 Jan 2000 11:53
57	Ch	W04 07 Jan 2000 11:53
58	Ch	W04 07 Jan 2000 11:53
59	Ch	W04 07 Jan 2000 11:53
60	Ch	W04 07 Jan 2000 11:53
61	Ch	W04 07 Jan 2000 11:53
62	Ch	W04 07 Jan 2000 11:53
63	Ch	W04 07 Jan 2000 11:53
64	Ch	W04 07 Jan 2000 11:53
65	Ch	W04 07 Jan 2000 11:53
66	Ch	W04 07 Jan 2000 11:53
67	Ch	W04 07 Jan 2000 11:53
68	Ch	W04 07 Jan 2000 11:53
69	Ch	W04 07 Jan 2000 11:53
70	Ch	W04 07 Jan 2000 11:53
71	Ch	W04 07 Jan 2000 11:53
72	Ch	W04 07 Jan 2000 11:53
73	Ch	W04 07 Jan 2000 11:53
74	Ch	W04 07 Jan 2000 11:53
75	Ch	W04 07 Jan 2000 11:53
76	Ch	W04 07 Jan 2000 11:53
77	Ch	W04 07 Jan 2000 11:53
78	Ch	W04 07 Jan 2000 11:53
79	Ch	W04 07 Jan 2000 11:53
80	Ch	W04 07 Jan 2000 11:53
81	Ch	W04 07 Jan 2000 11:53
82	Ch	W04 07 Jan 2000 11:53
83	Ch	W04 07 Jan 2000 11:53
84	Ch	W04 07 Jan 2000 11:53
85	Ch	W04 07 Jan 2000 11:53
86	Ch	W04 07 Jan 2000 11:53
87	Ch	W04 07 Jan 2000 11:53
88	Ch	W04 07 Jan 2000 11:53
89	Ch	W04 07 Jan 2000 11:53
90	Ch	W04 07 Jan 2000 11:53
91	Ch	W04 07 Jan 2000 11:53
92	Ch	W04 07 Jan 2000 11:53
93	Ch	W04 07 Jan 2000 11:53
94	Ch	W04 07 Jan 2000 11:53
95	Ch	W04 07 Jan 2000 11:53
96	Ch	W04 07 Jan 2000 11:53
97	Ch	W04 07 Jan 2000 11:53
98	Ch	W04 07 Jan 2000 11:53
99	Ch	W04 07 Jan 2000 11:53
100	Ch	W04 07 Jan 2000 11:53

FIG. 13

101050' 5/524260



FIG. 14



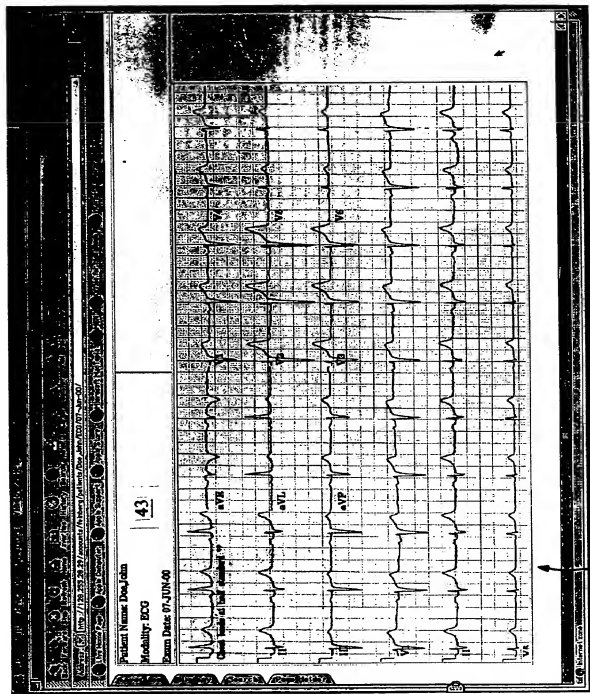


FIG. 15

101050-52524260

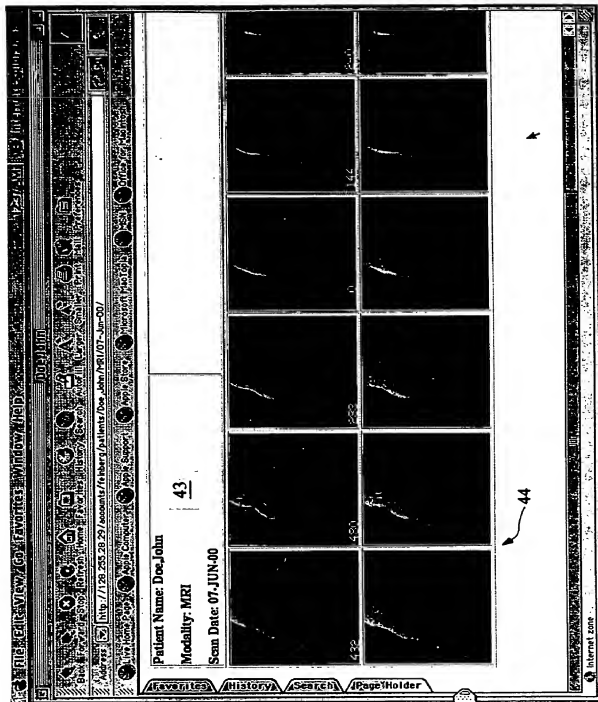


FIG. 16

104050 52524260

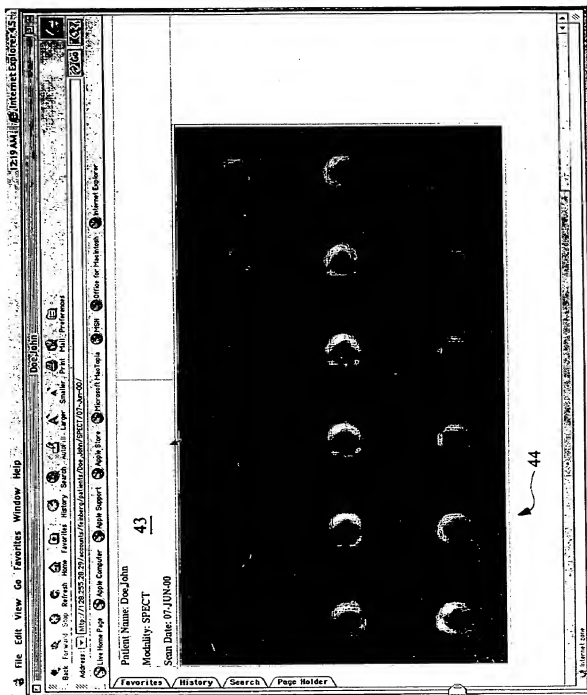


FIG. 17